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ABSTRACT

Over the past 25 years, five large-scale research studies of community college students have been conducted in North Carolina, involving cooperation between Duke University, North Carolina State University, and the North Carolina Department of Community Colleges. The different research strategies employed in these studies can be seen as taking one of three forms: the Traditional Researcher Dominated Strategy; the Researcher Dominated with Limited Client Involvement Strategy; and the Researcher-Client Collaborative Strategy. By examining and contrasting these three approaches, referred to collectively as "action research" strategies, this paper seeks to identify the specific strategy that provides for optimum levels of involvement, impact, and overall effectiveness. After an introductory section, the paper reviews the essential principles and concepts of action research and presents a model identifying strategies which would maximize the linkages between the university researcher, community college administrators, and the sponsors of the research. The list of the critical stages in the action research process identifies the following eight steps: (1) legitimization of the effort; (2) problem definition; (3) development of the plan; (4) data collection and preliminary analysis; (5) feedback to the client group; (6) joint diagnosis and planning; (7) action; and (8) evaluation. The paper then uses these eight stages as criteria to evaluate the three different research strategies. Examining extent of usage of study results, comparisons of study impact, comments from college and system staff, and study response rates, the paper concludes that the Researcher-Client Collaborative Strategy, involving more direct participation of system and college personnel and more direct application of study results, is the optimum model. (JMC)

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THE IMPACT OF RESEARCH STRATEGIES ON UNIVERSITY-COMMUNITY COLLEGE LINKAGES

A Paper Presented to the
Council of Universities and Colleges
at the Annual Convention of the
American Association of Community and Junior Colleges
(70th, Seattle, Washington,
April 22-25, 1990)

by

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ABSTRACT

Researchers sometimes find it difficult to gain support, cooperation, and involvement from administrators at both the state-system and local college level when conducting comprehensive system-wide research studies. This paper contrasts three research strategies used over the past 25 years involving cooperation between Duke University, North Carolina State University, and the North Carolina Department of Community Colleges. The three research strategies were developmental in nature and evolved into increasingly more collaborative linkages between the universities and community colleges. The three research strategies are (1) Traditional Researcher Dominated Strategy, (2) Researcher Dominated with Limited Client Involvement, and (3) Researcher-Client Collaborative Strategy. These research strategies are representative of five large-scale research studies of community college students funded by the North Carolina Department of Community Colleges and conducted by university and community college researchers (Bolick, 1969; Phillips, 1970; Shearon, Templin, & Daniel, 1976; Shearon, Templin, Daniel, Hoffman, & West, 1980; and Shearon, Brownlee, & Johnson, 1990).

The action research model developed for this paper is a collaborative one which proceeds through several phases of research and action focused on a particular problem. It permits involvement by all associated with the problem, and contributes to the capacity of an organization to learn and to develop in the process. The action research process was used to demonstrate how a comprehensive system-wide research project may be useful for achieving essential involvement and collaboration among individual community colleges, the statewide community college system, and universities. The five research studies used three different but related research strategies and their respective impact on policy-making and utilization of findings appear to be quite different. The results suggest that involvement and collaboration are essential among researchers, administrators, and system leaders if the findings are to be used in making needed changes in policies, practices, and procedures. The authors conclude that the Researcher-Client Collaborative Strategy is the most optimum model for collaboration, impact, and overall effectiveness.

THE PROBLEM

Community college administrators and educators are facing unique challenges which have emerged because of changing demographic, economic, and educational forces in our society. An ongoing challenge facing community college leaders is that of assessing the effects of changing student populations on the institution's administrative policies, practices, and instructional programs (Templin, 1976). During the decade of the 1990s, community college administrators at local and state levels will need current and accurate information on all aspects of the community college experience, including student characteristics, in order to make effective administrative decisions. Decision-making, forecasting, and strategic planning are all administrative tasks that require an accurate, up-to-date knowledge base.

University and community college researchers can play important roles in institutional policy making, planning, and evaluation, as they obtain and distribute information to administrators and educational leaders. Peterson and Corcoran (1985) described institutional research as an intermediary function that links the educational, governance, and information functions of higher education institutions. They suggested that institutional research efforts are needed in the following areas: goals and objectives, student characteristics and achievement, faculty characteristics and conditions of service, curricular change and effectiveness, institutional administration and organization, funding and financing, and public relations. It can be argued that institutional research efforts and strategies are needed in order to help increase the impact and utilization of research findings on policy making and planning. Furthermore, as the institutional researcher implements collaborative research strategies, one is likely to assume the role of change agent within the institution.

The North Carolina Community College System has supported five studies of student characteristics over the past two decades. The first study was conducted by Bolick (1969) and surveyed all credit students enrolled in the respective system institutions. Phillips

(1970) completed a comprehensive study of noncredit or continuing education students enrolled in the system. Bolick and Phillips were researchers at Duke University and their pioneering studies provided the foundation for the three comprehensive statewide studies that followed. Both the Bolick and Phillips' studies used similar research procedures, and for the purposes of this analysis these two studies will be combined and referred to as the Traditional Researcher Dominated Strategy.

The next three studies were conducted by researchers at North Carolina State University. The third study conducted by Shearon, Templin, and Daniel (1976) examined characteristics of both credit and noncredit students enrolled in classes during the spring of 1974. This study will be identified as the Researcher Dominated with Limited Client Involvement Strategy.

In 1980, a fourth study was conducted by Shearon, Templin, Daniel, Hoffman, and West, and a fifth study was conducted by Shearon, Brownlee, and Johnson in 1990. Both of these comprehensive studies examined characteristics of curriculum and continuing education students enrolled in all community colleges in the North Carolina Community College System. These two studies will be referred to as the Researcher-Client Collaborative Strategy.

The specific objectives of this paper are to:

(1) Identify and describe an action research process for examining five research projects that link universities, a community college system, and local community colleges.

(2) Describe and analyze the major stages of large multi-institutional survey research projects.

(3) Contrast three research strategies that have been utilized over the past two decades within the North Carolina Community College System and which represent varying degrees of university-community college linkages.

(4) To identify a research strategy that provides for optimum levels of involvement, collaboration, impact, and overall effectiveness.

CONCEPTUAL FRAMEWORK--ACTION RESEARCH

Action research is a research strategy in which an organization or institution undergoes a development process through a collaborative application of the scientific method. This method of inquiry comprises three processes: data collection, feedback of the data to the clients, and action planning based on the data. Action research is both an approach to problem solving--a model or a paradigm--and a problem-solving process--a series of activities and events (French & Bell, 1984).

As a problem solving approach and process, action research is an activity that links the separate interests of scientists, practitioners, and sponsors; it tackles the theoretical questions arising in the basic discipline and multi-disciplinary areas simultaneously with the practical problems of sponsors (Clark, 1972). As a research strategy, action research enables sponsors and practitioners to collectively benefit from a closer examination of organization change. Action research is concerned with an increase in knowledge, and a concern for change.

At the heart of the action research model is the concern for the diffusion and utilization of the knowledge generated in the research process. The utilization of knowledge has two main facets: (1) knowledge building--the integrating of relevant research and theory into forms that can be utilized outside the immediate scientific community, and (2) the institutionalizing of knowledge--the creating of networks and pathways for knowledge to be introduced into consumer organizations and then acted upon (Havelock, 1969). The diffusion and utilization of research findings is brought about through the effective transmission of information along a complex network which connects multiple role occupants

in the organization. Within a community college, the president, mathematics instructor, dean of students, counselor, career development office and continuing education dean would all be part of the diffusion/utilization network. Outside the academic setting, the trustees of community colleges, state community college administrative leaders, and members of relevant state boards would benefit from the knowledge generated by the research. The effective transmission of information throughout an institution and its sponsors is often inhibited by communication barriers between individuals and groups. Action research provides a means for facilitating collaboration and involvement between primary groups, thus increasing the flow of information.

Some advantages of action research described by Lippitt (1982) are as follows: (1) people tend to utilize the findings; (2) people are likely to become involved in the process; and (3) there is economy in the collecting of data. Conversely, disadvantages of the action research strategy are: (1) the necessity of training fact-finders; (2) the necessity of obtaining the support of people in the operation; (3) the subjectivity resulting from direct involvement; and (4) the researcher must relinquish some decision-making power.

ESSENTIAL CONCEPTS OF THE ACTION RESEARCH MODEL

There are three essential concepts that comprise the action research model:

(1) Action research simultaneously assists in practical problem-solving and expanding scientific knowledge. It aims to contribute both to the practical concerns of people in an immediate problematic situation and to the goals of social science (Rapoport, 1970). This approach is in essence a model for planned change--a strategy for bringing about planned change in the organization or institution which will increase organizational effectiveness. Action research is focused on goals and objectives and as such can be viewed as research with a purpose. Within this unique "action and research" model, the role of the change

agent/consultant is to help the organization's management to clarify their own goals, plan their actions, and set their own strategies in such a way that one continues to learn through the process of fact-finding.

(2) Action research utilizes the scientific mode of inquiry. Dewey (1933) introduced the five phases of reflective thinking--suggestion, intellectualization, hypothesizing, reasoning, and testing the hypothesis by action--which served as a basis for the following scientific steps. The action research approach can be translated into the following steps: (1) the problem is identified; (2) hypotheses about the problem are formulated; (3) observations are made; (4) conclusions and generalizations are formulated; and (5) new problems are identified (French & Bell, 1984).

(3) Action research is a collaborative process. A distinguishing feature of action research is the collaboration between individuals inside the system--clients--and individuals outside the system--change agents or researchers (French & Bell, 1984). Within the university-community college linkage model, this collaboration is evidenced between the researchers and university administration, between researchers and the community college administration and faculty, and between researchers and the state level community college administrators and board members.

> The essential characteristics of action research are presented in the following definition: Action research is a cyclical process which focuses on several main issues: joint collaboration between client and change agent, heavy emphasis upon data gathering, preliminary diagnosis prior to action planning and implementation, careful examination of results before action is taken, and the development of new behavioral science knowledge which can be applied to other organizational settings...(Huse, 1980).

In summary, action research is a research process in the realm of social action which leads to organizational learning, development, and further action based on research. As a

research strategy it is concerned with an increase in knowledge and a concern for change. The process is an iterative one, with each cycle consisting of planning, implementation, evaluation, and replanning. Central to this approach is the dissemination and utilization of the knowledge which is generated. The basic action research model used in this paper is presented in Figure 1.

CRITICAL STAGES IN THE ACTION RESEARCH PROCESS

Before identifying the characteristics of the three action research strategies used in the five comprehensive survey research efforts, this section will distinguish the critical stages necessary if there is be optimum linkage between the university researchers, the community college administrators, and the sponsors of this research.

(1) Legitimizing the Effort

-The commitment and support of the chief administrative officer must be obtained.

-Commitment is necessary at the highest levels of all organizational subsystems.

(2) Problem Definition

-Establish an open line of communication to leaders of the various subsystems within the organization.

-Allow sufficient time for the clients to 'digest' the potential impact of the proposed research activity.

(3) Development of the Plan

-Contacts should be set up between researchers, administrators and practitioners who have input into the research plan or strategy.

-Researchers should attend various meetings of the subsystem groups in order to facilitate such contacts.

-Researchers must make an effort to be good listeners at this stage in the process.

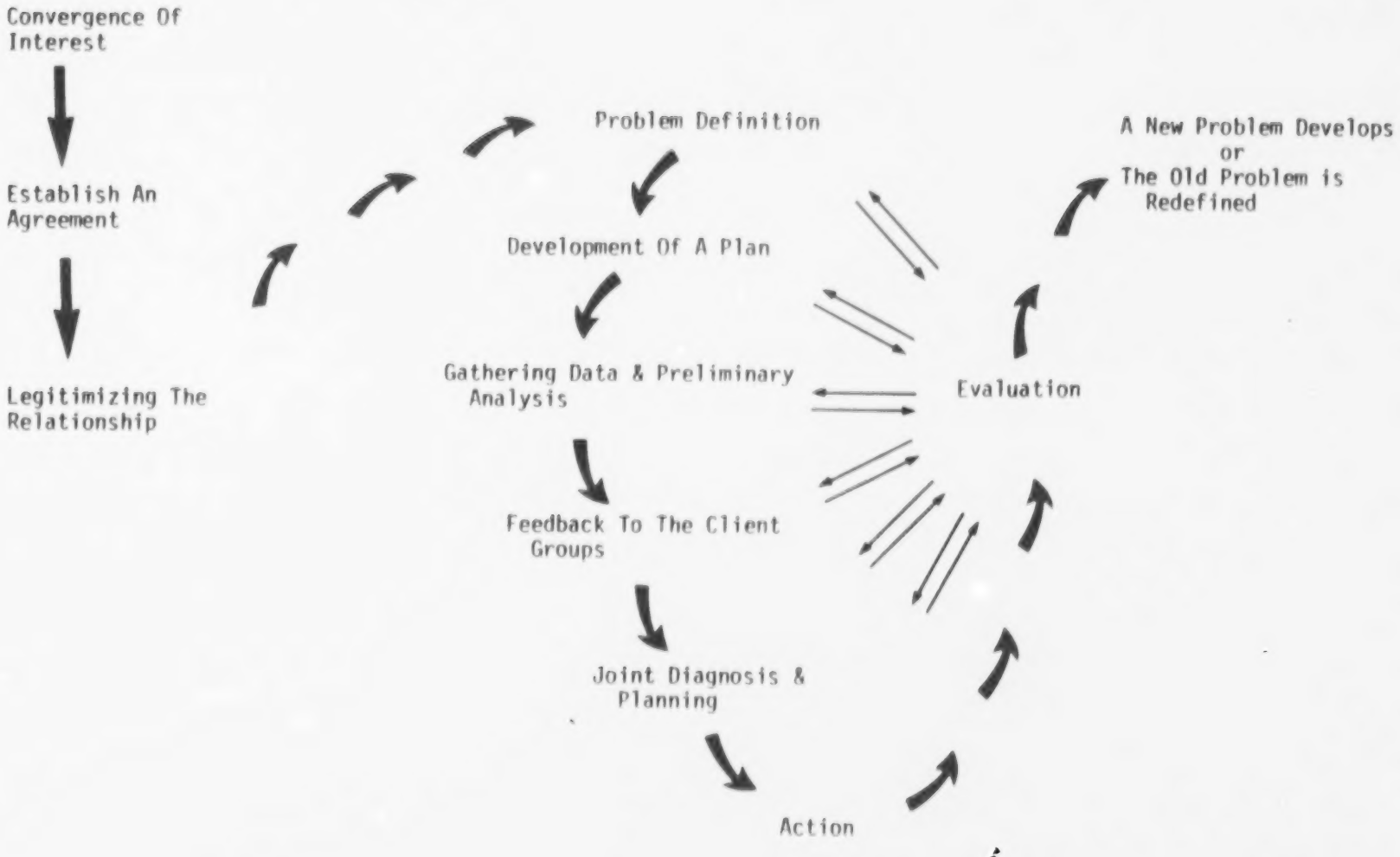

Figure 1. The Basic Action Research Model

-Research liaison groups should be formed which represents diverse functions at all levels in the organization.

(4) Gathering Data and Preliminary Analysis

-Organizational people should participate in carrying out the data collection effort.

-A team approach should be fostered between the organizational subsystems.

-Researchers should make on-site visits and initiate a constant line of communication in monitoring the process.

-Organizational staff should participate in the interpretation of data as it becomes available.

(5) Feedback to the Client Group

-Information should be actively disseminated throughout the organization.

-Organizational "machinery" can be used to diffuse the information.

-Provide preliminary feedback on a "still in progress" basis.

-Reorganize and prioritize the available information.

(6) Joint Diagnosis and Planning

-Develop a sensitivity to the organizational political situation.

-Researcher should attend meetings with leaders of the organizational subsystems.

-An interpretive and supportive communication style is needed.

-Vigorously promote the findings and recommendations.

-Reports must be accurate and timely.

(7) Action

-Sufficient time should be allowed for a "digestion" of the results of the research effort.

-Actions taken should reflect the findings of the research effort.

(8) Evaluation

-Evaluation of effectiveness should be made at each step in the action research process.

-Actions should lead to measurable results.

COMPARATIVE ANALYSIS OF THREE RESEARCH STRATEGIES

The Bolick (1969) and Phillips (1970) studies used similar research procedures and are referred to collectively as the Traditional Researcher Dominated Strategy. The Shearon, Templin, and Daniel (1974) study is identified as the Researcher Dominated with Limited Client Involvement Strategy. The fourth and fifth research projects conducted in 1980 and 1990 are referred to collectively as the Researcher-Client Collaborative Strategy.

Each of the three Research Strategies will be briefly described according to the major stages in the basic action research model outlined in Figure 1. The major stages are: legitimation, problem definition, development of a plan, gathering data, feedback, joint diagnosis and planning, action, and evaluation.

Traditional Researcher Dominated Strategy

(1) Legitimation

The primary source of legitimation in both studies was the state president of the North Carolina Community College System. In the Bolick (1969) study, the state president requested the study and in Phillips (1970) study the state president granted permission for the study of student characteristics. Forty-two colleges participated in the 1969 study of 11,184 students while 16 colleges participated in the 1970 study of 9,545 students. Several colleges refused to participate in the 1970 study.

(2) Problem Definition

The source of the problem in the Bolick (1969) study was the necessity of providing a federal report on students within the system. In the Phillips (1970) study, however, the researcher initiated the definition of the problem.

(3) Development of a Plan

Planning for both studies was done primarily by the researchers. Survey forms were also developed primarily by the researchers.

(4) Data Gathering

In the Bolick (1969) study, the survey forms were explained and distributed to personnel directors at their annual meeting. In Phillips ' (1970) study, the researcher visited the presidents of the selected institutions to obtain their support and to have the presidents designate a person to collect the data. The data were collected by individuals at the local colleges and the survey forms were returned to the researchers for analysis.

(5) Feedback

Both the Bolick (1969) and Phillips (1970) studies resulted in dissertations. In addition, a final report on the Bolick (1969) study was prepared and disseminated.

(6) Joint Diagnosis and Planning

There was discussion, analysis and planning between the researcher and community college leaders in both studies.

(7) Action

Other than for reporting purposes, the evidence that action was taken as a result of these two studies is not available.

(8) Evaluation

Evidence of evaluation of these two studies is not available.

Researcher Dominated with Limited Client Involvement Strategy

(1) Legitimation

The Shearon, Templin, and Daniel (1976) study was legitimized by the state president, the State Board of Education and the Occupational Education Research Advisory Committee. There was very strong support for the study from the state president of the North Carolina Community College System. A sample of 16 colleges was selected to participate in the study of 10,074 students. One college president refused to participate initially, but the system president convinced the local college president that his institution's participation was very essential to the study since it was a system-wide study.

(2) Problem Definition

The problem and need for the study were defined primarily at the state level by the system leadership and the university. There was a lack of awareness of the social and political climate by the researchers during the early phases of the study.

(3) Development of a Plan

The planning was done primarily by the university researchers with few contacts with local college leaders. The questionnaire was developed by the researchers with little input from community college leaders.

(4) Data Gathering

The researchers went into the colleges, drew the sample, and distributed the questionnaires to the instructors for distribution to students in the selected classes. No advance notice was given to the instructors until their specific classes had been selected through the sampling process. The questionnaires were returned to the researchers for analysis.

(5) Feedback

There was some "in progress" reporting done to key groups in the system. Each college participating in the study received limited feedback on their student profiles. Most of the dissemination efforts were geared more toward the system leadership. A final report was published along with two dissertations. A slide-tape presentation was prepared and used in giving feedback to interested persons.

(6) Joint Diagnosis and Planning

The researchers and system staff participated in considerable study, analysis, and planning as a result of the study.

(7) Action

There was some evidence that the findings were utilized at the local college level and at the system level in staff development.

(8) Evaluation

The research process was evaluated by the researchers, system, and college leaders.

Researcher-Client Collaborative Strategy

(1) Legitimization

The Shearon, Templin, Daniel, Hoffman, and West (1980) and Shearon, Brownlee, and Johnson (1990) studies were legitimized by the state presidents, State Board for Community Colleges, and the community college president's association. Formal contracts were signed between the state board and university officials with no charges for overhead expenses. All college presidents requested to participate in the study rather than to have a sample of institutions as was done in earlier studies. In 1980, all 57 colleges participated and there was a sample of 16,400 students. In the 1990 study all 58 colleges participated with a

student sample of 16,196. A steering committee of presidents, system leaders, and institutional researchers was appointed to give direction to the study.

(2) Problem Definition

The problem definition was a joint effort among the university researchers, system leaders, college presidents, and institutional researchers. The researchers were more keenly aware of the social and political realities surrounding the study than in previous studies.

(3) Development of a Plan

Planning for the studies was done by the researchers and the steering committee in meetings, conferences, and telephone discussions. Numerous suggestions were obtained from the system level and college leaders in planning the study. The research instrument was designed by the researchers after incorporating the suggestions from many individuals from the system and local colleges.

(4) Data Gathering

A handbook for drawing samples and collecting data from instructors and students was prepared by the researchers. A research coordinator was appointed by the president for each college, and seven workshops were held throughout the state to train the college research coordinators. Research coordinators handled the college announcements, distribution, and collection of the questionnaires, while instructors actually administered the questionnaires to students in their classes. There was constant monitoring by the project team from the university with some visits to colleges to help with special situations. Most problems were handled by phone calls.

(5) Feedback

The questionnaires were machine scored for quick data processing and each college received a computer print-out on the students characteristics for their institution. Computer diskettes were made available to colleges for a complete record of all of their student data from the 50-item questionnaire. Preliminary "in process" dissemination was carried out at

meetings, workshops, forums, and state board meetings. Technical reports and executive summaries were distributed to all colleges. Several dissertations and journal articles have been written from the studies.

(6) Joint Diagnosis and Planning

The researchers and system staff have engaged in extensive discussions on the meaning and implications of these studies. Following the dissemination of the research findings, considerable effort has been given to planning possible actions that might be taken from a knowledge of the students and their changing characteristics.

(7) Action

There is some evidence that the findings have been used in staff and organization development at the system and college level. However, a follow-up study of the impact of the action research projects needs to be made in one to three years to see what changes have occurred that may be attributed to the studies.

(8) Evaluation

Extensive evaluation was conducted at all phases of the study by university and community college researchers and instructors.

A summary of the extent to which the three research strategies adhered to the critical stages in the action research process is presented in Figure 2. The descriptions in Figure 2 suggest considerable differences in the degree of collaboration between the three research strategies.

CRITICAL STAGES IN ACTION RESEARCH PROCESS	TRADITIONAL RESEARCHER DOMINATED STRATEGY (Bolick,1969 Phillips,1970)	RESEARCHER DOMINATED WITH LIMITED CLIENT INVOLVEMENT STRATEGY (Shearon,Templin & Daniel,1976)	RESEARCHER-CLIENT COLLABORATIVE STRATEGY (Shearon et al. 1980,1990)
1. LEGITIMATION	State Presidents	State Presidents Advisory committee	President's Association State President State Board Steering committee
2. PROBLEM DEFINITION	State Presidents Researchers	State President & Staff	Joint between university researchers, system leaders, presidents, & institutional researchers
3. DEVELOPMENT OF PLAN	Researchers	Researchers	Researchers, steering committee, & system leaders
4. DATA GATHERING	Researchers Local college	Researchers & college staff	Researchers-university & institutional, faculty
5. FEEDBACK	Final report Dissertation	Final report Slide-tape presentation, Dissertations	Computer print-outs, diskettes, technical reports, dissertations, Journal articles, executive summaries, seminars, workshops, forums.
6. JOINT DIAGNOSIS AND PLANNING	Very limited	Moderate	Extensive, continuous & comprehensive
7. ACTION	Federal report on students submitted to HEW	Evidence of results utilized in staff development	Evidence of findings used for staff and organization development.
8. EVALUATION	No evidence available	Researchers & college leaders	University and college researchers, instructors.

Figure 2. A summary of the impact of alternative research strategies on university-community college linkages.

DISCUSSION

The five comprehensive system-wide studies and the three research strategies described in this paper have many similar features. All of the research efforts adhere to principles of good survey research design. Furthermore, the research efforts included many of the crucial attributes identified in the basic action research model presented earlier in this paper.

The comparative analysis provided on the three research strategies also suggest major differences. The Traditional Researcher Dominated Strategy represents a more traditional view of research in which the researchers directed and controlled the research process. Decisions regarding the nature of the problem, methodology, implications, and dissemination of knowledge were made primarily by the researchers. Available evidence indicates that the dissemination effort was limited to the preparation and distribution of a final report. Based on studies by Havelock (1969) on knowledge utilization, there are far more effective strategies to facilitate knowledge utilization by clients.

The Researcher Dominated with Limited Client Involvement Strategy appears to follow the stages in the basic action research model more closely than does the Traditional Researcher Dominated Strategy. More attention is given to legitimization and the involvement of leaders within the State Department of Community Colleges. This strategy examined characteristics of both credit and noncredit students at the same time. This is important in that it helps to break down the idea of a major difference or the existence of a hierarchy within the student population. While there is involvement in this strategy, the researchers were still in control of the project. A major difference between the two strategies focuses on the dissemination efforts. In the second strategy final reports were prepared as well as a slide tape presentation. Sixty-five copies of a 15 minute slide tape presentation were made and distributed to all institutions in the system. Further, numerous

presentations were made by the researchers to various user groups in the system, including trustees, instructional administrators, faculty, and presidents.

Of the three research strategies described, the Researcher-Client Collaborative Strategy more closely approaches the "ideal" action research model presented in Figure 1. All 58 colleges participated in this study on a voluntary basis. Presidents of these colleges made strong requests to the researchers to participate in the Shearon et al. (1980) and Shearon et al. (1990) studies. The third research strategy was designed to get maximum involvement and participation from leaders in the system. There was considerable collaboration between the university researchers and administrators at the system and the college levels.

The results of the assessment indicate that more direct involvement of system and college personnel and more direct application of study results increase the likelihood of having a successful large scale survey research project such as those undertaken in North Carolina. The planning, implementing, and evaluating procedures provide a method for obtaining a high degree of institutional cooperation and encourages the utilization of research findings by faculty, administrators, and policy-makers. These results are based on such indirect measures as the extent of usage of the results of the study; comparisons of the impact of the studies between 1969, 1970, 1976, 1980, and 1990; comments from college and system staff; and institutional and system-wide response rates. Data were also obtained from instructor and college research coordinator evaluation forms which were completed in the fourth and fifth comprehensive studies.

CONCLUSIONS

This paper has described three research strategies that utilized varying degrees of mutual collaboration and planning in five research projects within a large comprehensive community college system. The authors conclude that the Researcher-Client Collaborative Strategy is the most optimum model for collaboration, impact, and overall effectiveness. Many of the procedures developed in the model may well be undertaken in subsequent studies by staff members in the system and its colleges without the continuing assistance of the university researchers. Many local colleges have used the survey instruments and the sampling procedures to collect and analyze data on an annual basis.

The authors have attempted to show that through the use of a basic action research process, university and community college researchers may be more effective in helping colleges experience growth and renewal. We believe that researchers can improve their effectiveness by using an action research model that emphasizes mutual planning, collaboration, and involvement of key people in the planning, implementing, and evaluation of the research effort. If we are to have a significant impact on management decisions in the 1990s, then it is imperative that we design research efforts which provide maximum utilization of our data by decision makers. These examples of university and community college linkages have been presented to contribute to the knowledge base and to demonstrate that collaborative research can be mutually beneficial to the purposes of universities and community colleges.

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